plant. During the second week of May 2005 I visited the Melkote Temple Wildlife Sanctuary to assess the status of *Cycas circinalis*, where I observed a number of female Plains Cupid laying eggs on the shoots, and each shoot had 5-10 eggs. The eggs were white in colour and disc-shaped. The caterpillar was woodlouse-shaped and had two different colour forms, one green and the other reddish brown.

We saw three different species of ants (*Polyrhachis* sp.) constantly attending to the caterpillars. Ants were seen tapping the lower side of the abdomen of the caterpillar, and in response the caterpillar secreted a white liquid, which was readily consumed by the ants. Sometimes three ants were seen simultaneously feeding on the white liquid from the same caterpillar. The ants defended their caterpillars very possessively.

Courtship of the Plains Cupid has also been observed on many *Cycas circinalis* (pers. obs.). Typically the males sit on the branches of *Cycas* with their wings open. Whenever a female comes the males try to draw the attention of the female by beating the wings and by following the female.

The *Cycas circinalis* is an endangered species (Sharma *et al.* 1984), and its association with Plains Cupid is an important aspect for study for its conservation (Fig. 1).

ACKNOWLEDGEMENTS

I thank K. Manu, founder member of Mysore amateur naturalists, an NGO based in Mysore for involving me in the '*Cycas circinalis*' census that enabled me to record the interesting observation and publish the article. Mr. Sunil from Bangalore helped us in identifying the Ant species.

REFERENCES

Wynter-Blyth, M.A. (1957): Butterflies of the Indian Region. Bombay Natural History Society, Bombay. 523 pp.

23. OCCURRENCE OF GIANT ISOPOD *BATHYNOMUS GIGANTEUS* A. MILNE EDWARDS 1879 IN THE CHENNAI COASTAL WATERS[1]

P.S. Lyla[2,3], P. Murugesan[2,4], K.P. Manikandan[2,5] and S. Ajmal Khan[2,6]

[1]Accepted, December 29, 2004
[2]Centre of Advanced Study in Marine Biology, Annamalai University, Parangipettai 608 502, Tamil Nadu, India.
[3]Email: lyla_21@rediffmail.com
[4]Email: murugesan74@rediffmail.com
[5]Email: kpmanikandan@gmail.com
[6]Email: s_ajmalkhan@rediffmail.com

A giant isopod species was recorded in the Chennai coastal waters at a depth of less than 90 m in April 2004. The species was identified as *Bathynomous giganteus* A. Milne Edwards 1879. It belongs to the Order Isopoda and Suborder Falbelligera of the Class Crustacea. The collection of this species, generally occurring in deeper waters, from relatively shallow waters is of interest. The cause of migration of this species to shallow water is worth investigating, especially in Chennai.

Order Isopoda contains numerous species and they are classified under 95 families. Isopods generally occur on all substrata and at all depths. Most of the species occur in intertidal and shelf waters, and a few are known to occur in freshwater. The shallow water forms are often abundant beneath rocks, among sea weeds, coral rubble, mussel beds, chambers of sponges and in detritus. Normally, the size of the adult isopod ranges from 30 to 50 mm in length, but as an oddity there are deep-sea species measuring 200 to 400 mm in length. Isopods are known by various names, such as Beach Slater, Pill Bug and Scale Louse.

The occurrence of the massive isopod species *Bathynomus giganteus* is uncommon in Chennai coastal waters. This species belongs to the Family Cirolanidae. It measured 32.5 cm in length and 11.5 cm in width. The members of this family are distributed mainly in the western Atlantic Ocean, the Gulf of Mexico, the Bay of Bengal and the Arabian Sea. While the Cirolanids occur in great abundance in both temperate and tropical waters, often constituting the most numerous group, the occurrence of the giant isopod is highly sporadic and its collection rare.

The occurrence of this species was reported earlier by Srikrishnadhas and Venkatasamy (2003) in the inshore waters of Thoothukudi. The specimen collected by them measured 26.0 cm (total length) and 9.5 cm (in breadth). There are many other giant isopod species belonging to the genus *Bathynomus*, namely *B. dodereini*, *B. affinis*, *B. propinquis*,

B. docemspinosis, *B. miyarei*, *B. kapala*, *B. immanis* and *B. peter* (Tso and Mok 1991). These species are distributed in the seas of the United States and Japan.

Even though Cirolanid isopods are cosmopolitan in distribution, many species show high levels of endemism. The members of Cirolanidae are also more important for several other reasons. The family is species-rich and occurs worldwide. This species is common in threatened marine habitats, such as coral reefs and mangrove forests that are under heavy developmental pressure, playing a significant role as food for bottom feeding fishes, predators of other fishes and also as mid-sized invertebrate consumers in the food web.

Of all the Crustacean groups, the isopods are the most diverse in their body form. Isopods have only one pair of uropod. They are extremely diverse in their feeding habits. These species mainly feed on fishes, sponges, shrimps, nematodes and radiolarians. They also feed on diseased or injured fish. They also attack fishes that have been caught in commercial nets (Briones *et al.* 1991).

The capture of this giant isopod by trawlers operated in the inshore waters of Chennai at a depth of less than 90 m, is of interest. It occurs generally at depths of 300 m, the reason for its occurrence in shallower waters is worth studying.

ACKNOWLEDGEMENTS

We thank Prof. Dr. T. Balasubramanian, Director, Centre of Advanced Study in Marine Biology, Annamalai University for encouragement, the authorities of their university for facilities and CMLRE (DOD), Kochi, for financial support.

REFERENCES

Briones F., A.J. Patricia & E. Lozano (1991): Aspects of the biology of the giant isopod *Bathynomus giganteus*, A. Milne Edwards, 1879 (Flabellifera: Cirolanidae), off the Yucatan Peninsula. *Crust. Biol.* 11: 375-385.

Srikrishnadhas, B. & M. Venkatasamy (2003): *Bathynomus giganteus*: A rare occurrence in coastal waters of Thoothukudi, India. *Curr. Sci. 85(9)*: 1253-1254.

Tso, S.F. & H.K. Mok (1991): Development, reproduction and nutrition of the giant isopod *Bathynomus doederleini*, Ortman, 1894 (Isopoda, Flabelliera, Cirolanidae). *Crustaceana 61*: 141-154.

24. A NOTE ON THE CAPTURE OF 'GIANT ISOPOD', *BATHYNOMUS GIGANTEUS* A. MILNE EDWARDS, 1879 OFF MANGALORE COAST, INDIA[1]

T. Harish Nayak[2,4], A.P. Dineshbabu[2,5] and P.U. Zacharia[3,6]

[1]Accepted December 29, 2006
[2]Mangalore Centre of Central Marine Fisheries Research Institute (CMFRI), Mangalore, India.
[3]Tuticorin Research Centre of Central Marine Fisheries Research Institute (CMFRI), Tuticorin, India.
[4]Email: harinayak@yahoo.com
[5]Email: dineshbabuap@yahoo.co.in
[6]Email: zachariapu@yahoo.com

Isopods are a large, diverse order with ten named suborders and approximately 10,000 species. They are found in all seas and at all depths, in fresh and brackish waters, and on land. The Giant isopod *Bathynomus giganteus* A. Milne Edwards, 1879 (Richardson 1905) is the largest marine isopod species recorded in the world. It is reported to occur in a wide depth range from 170 to 2,140 m and grows up to 400 mm in length. *Bathynomus giganteus* was found for the first time in 1878 off the coast of Dry Tortugas in the Gulf of Mexico and is reported to have distribution off Gulf of Mexico; Atlantic Ocean; Bay of Bengal and Arabian Sea (Brusca *et al.* 1995).

The *B. giganteus* reported here was caught in a trawl net operated by deep sea trawlers off Mangalore coast from a depth of 150 m on April 07, 2004. Even though the species is reported to have a wide distribution, the incidences of their capture by fishing vessels from Indian waters are very rare. Earlier records of the species were from Thoothukudi, Tamil Nadu (Srikrishnadhas and Venkatasamy 2003) and Ezhimala, Kannur (Jacob and Narayankutty 2006). This male specimen caught off Mangalore measured 255 mm in length and 103 mm in width.

The body of *Bathynomus giganteus* is divided into three distinct regions: head (cephalon), thorax, and abdomen (pleon); the first segment of the thorax is fused to the head. The remaining seven free segments (pereonites) of the thorax comprise the pereon; each bears a pair of uniramous legs, or pereopods. The pereopods are modified for locomotion and for latching onto the prey. The abdomen primitively consists of five free segments (pleonites) plus a fused 6th pleonite + telson (pleotelson). Each pleonite bears a pair of biramous pleopods, which are used for swimming and for respiration.